

MICHAEL A. SPOHN et. al.
Serial No.: 10/065,668

3

AMENDMENTS TO THE CLAIMS:

The following listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Currently Amended) An adapter for connecting a syringe comprising a plunger to an injector comprising a drive piston, the adapter comprising: a piston extension having a first end and a second end, the first end comprising a first connector member adapted to be connected to the drive piston and a second end comprising a second connector member adapted to be connected to the plunger of the syringe, the first connector member defining a slot having an opening on the side of the first connector and being mateable with an attachment flange formed on the drive piston.

2. (Original) The adapter of Claim 1 wherein the second connector member comprises threads mateable with threads formed on the plunger of the syringe.

3. (Original) The adapter of Claim 2 wherein the threads on the second connector members are external threads.

4. (Withdrawn) The adapter of Claim 1 wherein the first connector member comprises a protrusion mateable with a slot formed in the drive piston.

5. (Canceled)

6. (Currently Amended) The adapter of Claim ~~[[5]]~~ 1 wherein the first connector member further comprises a pin located within the slot and operable to engage the attachment flange of the drive member.

7. (Original) The adapter of Claim 6 wherein the pin is spring-loaded.

8. (Original) The adapter of Claim 6 wherein the pin engages a recess formed in the attachment flange of the drive piston.

9. (Withdrawn) The adapter of Claim 1, further comprising an adapter face plate for attaching the syringe to the injector.

MICHAEL A. SPOHN et. al.
Serial No.: 10/065,668

4

10. (Withdrawn) The adapter of Claim 9 wherein the adapter face plate comprises a mounting device for attaching the adapter face plate to the injector.

11. (Withdrawn) The adapter of Claim 10 wherein the mounting device comprises at least one mounting ear.

12. (Withdrawn) The adapter of Claim 11 wherein the at least one mounting ear comprises two mounting ears.

13. (Withdrawn) The adapter of Claim 12 wherein the two mounting ears are positioned in substantially opposed relation to one another.

14. (Withdrawn) The adapter of Claim 11 wherein the at least one mounting ear is adapted to be engaged with at least one protrusion formed on the injector to attach the adapter face plate to the injector.

15. (Withdrawn) The adapter of Claim 9 wherein the adapter face plate comprises an attachment mechanism adapted to removably mount the syringe to the injector.

16. (Withdrawn) The adapter of Claim 15 wherein the attachment mechanism comprises a base defining a recess for receiving at least one flange of the syringe.

17. (Withdrawn) The adapter of Claim 15 wherein the attachment mechanism comprises a base for receiving the syringe and a pair of pivoting arms attached to the base and movable from an opened position to a closed position to engage the syringe.

18. (Withdrawn) The adapter of Claim 17 wherein the attachment mechanism further comprises a locking member extending from the base to secure the pair of pivoting arms in the closed position after the syringe is received by the base.

19. (Withdrawn) The adapter of Claim 17 wherein the pair of pivoting arms is attached to the base by a gear mechanism.

20. (Withdrawn) The adapter of Claim 19 wherein the gear mechanism permits simultaneous movement of the pivoting arms.

MICHAEL A. SPOHN et. al.
Serial No.: 10/065,668

5

21. (Withdrawn) The adapter of Claim 17 wherein each of the pivoting arms comprises a first beveled surface to permit reception of the syringe when the pivoting arms are in the opened position.

22. (Withdrawn) The adapter of Claim 21 wherein each of the pivoting arms comprises a second beveled surface to engage the syringe when the pivoting arms are in the closed position.

23. (Withdrawn) The adapter of Claim 17 wherein each of the pivoting arms comprises an arm extension to assist in moving the pivoting arms.

24. (Withdrawn) The adapter of Claim 9 wherein the adapter face plate defines an opening therein through which the drive piston and the piston extension are extendable.

25. (Withdrawn) The adapter of Claim 10, further comprising at least one device adapted to cooperate with at least one sensor on the injector when the adapter face plate is attached to the injector.

26. (Withdrawn) The adapter of Claim 25 wherein the at least one device cooperates with the at least one sensor to indicate that the adapter face plate is attached to the injector.

27. (Withdrawn) The adapter of Claim 25 wherein the at least one device cooperates with the at least one sensor to calibrate at least one operating parameter of the injector.

28. (Withdrawn) The adapter of Claim 27 wherein the at least one operating parameter comprises one or more of flow rate and pressure.

29. (Withdrawn) The adapter of Claim 25 wherein the at least one device comprises a plurality of devices and the at least one sensor comprises a plurality of sensors.

30. (Withdrawn) The adapter of Claim 25 wherein the at least one device comprises a magnetic device and the at least one sensor comprises a magnetic sensor.

MICHAEL A. SPOHN et. al.
Serial No.: 10/065,668

6

31. (Withdrawn) The adapter of Claim 25 wherein the at least one device comprises a detent.

32. (Withdrawn) The adapter of Claim 25 wherein the at least one device comprises a signal generator.

33. (Withdrawn) The adapter of Claim 25 wherein the at least one device is disposed on a distal surface of the adapter face plate.

34. (Withdrawn) The adapter of Claim 25 wherein the at least one device is disposed on the at least one mounting device.

35. (Withdrawn) The adapter of Claim 11 wherein the at least one mounting ear comprises two mounting ears and the at least one protrusion comprises two protrusions, and further wherein each of the two mounting ears is operable to be rotated into engagement with a respective one of the two protrusions to attach the adapter face plate to the injector.

36. (Withdrawn) An adapter for connecting a syringe comprising a plunger to an injector comprising a drive piston and at least one sensor, the adapter comprising: a piston extension having a first end and a second end, the first end comprising a first connector member adapted to be connected to the drive piston and a second end comprising a second connector member adapted to be connected to the plunger of the syringe;

an adapter face plate for attaching the syringe to the injector, the adapter face plate comprising a mounting device for attaching the adapter face plate to the injector and an attachment mechanism adapted to removably mount the syringe to the injector; and

at least one device adapted to cooperate with at least one sensor on the injector when the adapter face plate is attached to the injector.

37. (Withdrawn) The adapter of Claim 36 wherein the second connector member comprises threads mateable with threads formed on the plunger of the syringe.

MICHAEL A. SPOHN et. al.
Serial No.: 10/065,668

7

38. (Withdrawn) The adapter of Claim 36 wherein the first connector member comprises a protrusion mateable with a slot formed in the drive piston.

39. (Withdrawn) The adapter of Claim 36 wherein the first connector member defines a slot mateable with an attachment flange formed on the drive piston.

40. (Withdrawn) The adapter of Claim 39 wherein the first connector member further comprises a pin located within the slot and operable to engage the attachment flange of the drive member.

41. (Withdrawn) The adapter of Claim 36 wherein the mounting device comprises at least one mounting ear.

42. (Withdrawn) The adapter of Claim 41 wherein the at least one mounting ear comprises two mounting ears.

43. (Withdrawn) The adapter of Claim 42 wherein the two mounting ears are positioned in substantially opposed relation to one another.

44. (Withdrawn) The adapter of Claim 41 wherein the at least one mounting ear is adapted to be engaged with at least one protrusion formed on the injector to attach the adapter face plate to the injector.

45. (Withdrawn) The adapter of Claim 36 wherein the attachment mechanism comprises a base defining a recess for receiving at least one flange of the syringe.

46. (Withdrawn) The adapter of Claim 36 wherein the attachment mechanism comprises a base for receiving the syringe and a pair of pivoting arms attached to the base and movable from an opened position to a closed position to engage the syringe.

47. (Withdrawn) The adapter of Claim 46 wherein the pair of pivoting arms is attached to the base by a gear mechanism.

48. (Withdrawn) The adapter of Claim 47 wherein the gear mechanism permits simultaneous movement of the pivoting arms.

MICHAEL A. SPOHN et. al.
Serial No.: 10/065,668

8

49. (Withdrawn) The adapter of Claim 36 wherein the adapter face plate defines an opening therein through which the drive piston and the piston extension are extendable.

50. (Withdrawn) The adapter of Claim 36 wherein the at least one device cooperates with the at least one sensor to indicate that the adapter face plate is attached to the injector.

51. (Withdrawn) The adapter of Claim 36 wherein the at least one device cooperates with the at least one sensor to calibrate at least one operating parameter of the injector.

52. (Withdrawn) The adapter of Claim 36 wherein the at least one device comprises a plurality of devices and the at least one sensor comprises a plurality of sensors.

53. (Withdrawn) The adapter of Claim 36 wherein the at least one device comprises a magnetic device and the at least one sensor comprises a magnetic sensor.

54. (Withdrawn) The adapter of Claim 36 wherein the at least one device comprises a detent.

55. (Withdrawn) The adapter of Claim 36 wherein the at least one device comprises a signal generator.

56. (Withdrawn) The adapter of Claim 36 wherein the at least one device is disposed on a distal surface of the adapter face plate.

57. (Withdrawn) The adapter of Claim 36 wherein the at least one device is disposed on the at least one mounting device.

58. (Withdrawn) An adapter for connecting a syringe comprising a plunger to an injector comprising a drive piston and a sensor, the adapter comprising:

MICHAEL A. SPOHN et. al.
Serial No.: 10/065,668

9

a piston extension having a first end and a second end, the first end comprising a first connector member defining a slot adapted to be engaged with an attachment flange formed on the drive piston and a second end comprising a second connector member adapted to be connected to the plunger of the syringe;

an adapter face plate for attaching the syringe to the injector, the adapter face plate comprising two mounting ears positioned in substantially opposed relation to one another for attaching the adapter face plate to the injector and an attachment mechanism defining a recess for receiving at least one flange of the syringe to removably mount the syringe to the injector; and

a device on at least one of the two mounting ears, the device adapted to cooperate with the sensor on the injector when the adapter face plate is attached to the injector.

59. (Withdrawn) The adapter of Claim 58 wherein the adapter face plate defines an opening therein through which the drive piston and the piston extension are extendable.

60. (Withdrawn) The adapter of Claim 58 wherein the device cooperates with the sensor to indicate that the adapter face plate is attached to the injector.

61. (Withdrawn) The adapter of Claim 58 wherein the device cooperates with the sensor to calibrate at least one operating parameter of the injector.

62. (Withdrawn) The adapter of Claim 58 wherein the device comprises a plurality of devices and the sensor comprises a plurality of sensors.

63. (Withdrawn) The adapter of Claim 58 wherein the at least one device comprises a detent.

64. (New) An adapter for connecting a syringe comprising a plunger to an injector comprising a drive piston, the adapter comprising: a piston extension having a first end and a second end, the first end comprising a first connector member adapted to be connected to the drive piston and a second end comprising a second connector

MICHAEL A. SPOHN et. al.
Serial No.: 10/065,668

10

member adapted to be connected to the plunger of the syringe, the first connector member defining a slot mateable with an attachment flange formed on the drive piston, the first connector member comprising a pin located within the slot and being operable to engage the attachment flange of the drive member.

65. (New) The adapter of Claim 65 wherein the pin is spring-loaded.

66. (New) The adapter of Claim 65 wherein the pin engages a recess formed in the attachment flange of the drive piston.